



Indiana Department of Environmental Management  
Office of Air Management  
Rule Fact Sheet  
August 4, 1999

## **DEVELOPMENT OF A NEW RULE CONCERNING HAZARDOUS AIR POLLUTANT EMISSIONS FROM THE PRODUCTION OF FLEXIBLE POLYURETHANE FOAM #99-74(APCB)**

### **FACT SHEET**

#### **Overview**

This rulemaking adds national emission standards for hazardous air pollutants (NESHAP) for new and existing plant sites that manufacture flexible polyurethane foam.

#### **Citations Affected**

Adds 326 IAC 20-22

#### **Affected Persons**

Businesses affected by this rule are in the Standard Industrial Classification (SIC) code 3086, plastic foam productions. Fifty-six (56) facilities operating under this classification have been identified in Indiana. However, only 8 facilities representing 6 companies are major sources for flexible polyurethane foam production. Citizens living and working in the vicinity of these businesses will benefit from the reduced emissions. The Office of Pollution Prevention and Technical Assistance (OPPTA) has worked extensively with regulated sources to implement requirements of this rule.

#### **Potential Cost**

The regulation covers three distinct segments

of the polyurethane foam production: slabstock, molded and rebond. According to the preamble to the federal rule, U. S. EPA estimates that the cost for the slabstock segment is \$635 per ton of reduced emissions per year, for the molded segment is \$320 per ton of reduced emissions per year, and for the rebond segment it is anticipated that there will be no cost or environmental impacts, since it is believed that every facility already complies with the provisions of the rule. There is no additional cost to the state due to this new rule.

#### **Description**

On October 7, 1998, U. S. EPA issued a final regulation to reduce emissions of toxic air pollutants, those pollutants known or suspected of causing cancer or other serious health effects, from the flexible polyurethane foam industry. This regulation covers three distinct segments of this industry: slabstock, molded, and rebond polyurethane foam production. Slabstock foam products are primarily used in furniture seat cushions and bedding materials; molded foam is used in automotive seats, packaging, and a wide range of specialty

products; and rebond foam is used as carpet padding and cushions for school bus seats. Existing sources subject to the regulation are required to comply within three years of the effective date of the federal regulation, and new sources will be required to comply at initial startup. U. S. EPA believes that all rebond foam manufacturers are already complying with the applicable requirements.

The affected source is defined as each process that produces flexible polyurethane or rebond foam, emits a hazardous air pollutant and is located at a major source plant site. A process consists of raw material storage, production equipment and piping, ductwork, and other associated equipment; curing and storage areas. The regulations do not apply to processes dedicated exclusively to fabrication, such as gluing or otherwise bonding foam pieces together or to research and development.

In producing slabstock polyurethane foam, varying amounts of methylene chloride are required depending on the desired characteristics of the foam. For example, larger quantities of methylene chloride help increase a "blowing" action that produces lighter, softer foam. Manufacturers need to produce foam products with a wide range of softness and weight in order to serve varied markets. Hazardous air pollutant emissions from the following types of emission points are covered by the final standard: storage vessels, equipment leaks, production line, mixhead flush, mold release agents and auxiliary blowing agent uses. The pollutant emitted and the emission points required to be controlled by these standards vary according to whether the facility produces slabstock, molded or rebond flexible polyurethane foam.

This regulation primarily reduces emissions of methylene chloride and other pollutants emitted including toluene diisocyanate, methyl chloroform, diethanolamine, methyl ethyl ketone, methanol, and toluene. Methylene chloride comprises over ninety eight (98)

percent of the total hazardous air pollutant emissions from this industry and will be reduced by seventy per cent (70%). Most of the control requirements are based on cost-effective pollution prevention techniques. For example, facilities may avoid controlling emissions of methylene chloride in equipment cleaning, equipment leaks and storage by using less methylene chloride as a blowing agent.

### **Consistency with Federal Requirements**

The new rule is consistent with federal laws and rules.

### **CONSIDERATION OF FACTORS OUTLINED IN INDIANA CODE**

#### **13-14-8-4**

Indiana Code 13-14-8-4 requires that in adopting rules and establishing standards, the board shall take into account:

- 1) all existing physical conditions and the character of the area affected;
- 2) past, present, and probably future uses of the area, including the character of the uses of surrounding areas
- 3) zoning classifications;
- 4) the nature of the existing air quality or existing water quality as the case may be;
- 5) technical feasibility, including the quality conditions that could reasonably be achieved through coordinated control of all factors affecting the quality; and
- 6) economic reasonableness of measuring or reducing any particular type of pollution.

The board shall also take into account the right of all persons to an environment sufficiently uncontaminated as not to be injurious to human, plant, animal, or aquatic life or to the reasonable enjoyment of life and property.

### **RECOMMENDATION**

It is recommended that the board preliminarily adopt the new rule as presented.

### **IDEM Contact**

Additional information regarding this rule making action can be obtained from Jean Beauchamp, Rules Development Section, Office of Air Management, (317) 232-8424 or (800) 451-6027 (in Indiana).